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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,322

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EXAMINER

GODENSCHWAGER, PETER F

ART UNIT

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1796

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/533,322	Applicant(s) EDER, HEINRICH	
	Examiner PETER F. GODENSCHWAGER	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 16-21 and 23-31 is/are pending in the application.
- 4a) Of the above claim(s) 23-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 16-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 16, 2009 has been entered.

Applicant's reply filed June 16, 2009 has been fully considered. Claims 1-13 and 16-21 are amended, claims 14, 15, and 22 are canceled, claims 1-13, 16-21, and 23-31 are pending, and claims 23-31 are withdrawn from consideration.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13 and 16-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, claim 1 recites the limitation that a "first protective layer...is designed to be located on a part of the apron further away from the second protective layer from a skin layer of a wearer when worn by a wearer..." and "said second

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protective layer...is designed to be located on a part of the apron closer than the first protective layer to the skin layer of the wearer when worn by the wearer...". As an apron has two sides, either side is inherently and entirely capable of being worn closer to the body than the other, and it is not clear what design element would inhibit such a capability. Furthermore, it is not clear as to what specific design elements are meant to be encompassed by such a limitation, and the Applicant's original specification does not provide any guidance as to any specific and suitable apron design elements. For purposes of further examination, the limitations that the "first protective layer...is designed to be located on a part of the apron further away from the second protective layer from a skin layer of a wearer when worn by a wearer..." and "said second protective layer...is designed to be located on a part of the apron closer than the first protective layer to the skin layer of the wearer when worn by the wearer..." are being interpreted as layers that are capable of functioning as such.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 5-13, and 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lange (US Pat. No. 6,548,570) in view of Teleki (US Pat. No. 4,795,654).

Regarding Claims 1, 5-7, 11-13: Lange teaches a radiation shielding material for radiation from 10 to 200 keV (equivalent to a 10 to 200 kV tube) comprising 12.5 weight percent rubber (matrix material), 52 weight percent of a Sn compound, 28 weight percent of a W

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compound, and 6.5 weight percent of a compound such as gadolinium oxide or cerium carbonate (Gd or Ce compounds) (2:24-30, and Example 2, 5:40-56).

Lange does not teach the composition as comprising multiple layers of different compositions where the layer more remote from a body being protected comprise predominantly elements having a lower atomic number, and the layer closer to the body comprises predominantly elements having a higher atomic number. However, Teleki teaches a radiation protective composition of multiple layers of differing compositions where one layer may comprise U and another Sn (1:16-28 and 3:28-35). Lange and Teleki are analogous art because they are concerned with the same field of endeavor, namely radiation protective materials. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the multilayers of Teleki with the composition of Lange and would have been motivated to do so because Teleki teaches that another layer may protect from secondary radiation emitted by a first layer (1:16-28). While the references Lange and Teleki do not instruct a use of the layers relative to a body, the claim is to a composition and not to a method of using the composition. As such, in the composition rendered obvious, the layer comprising U will implicitly be capable being placed closer to the body than another layer.

The Office recognizes that all the claimed physical properties are not positively taught by the references, namely that for claim 1, at 60 to 140 kV the lead equivalence is from 0.25 to 2.0 mm and for claim 11 that at 60-90 kV the lead equivalence is from 0.25 to 0.6 mm. However, the references when taken together render obvious all the claimed ingredients, process steps and process conditions. Therefore, the claimed physical properties would implicitly be achieved by the disclosed composition.

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Regarding Claims 8-10: Lange teaches that the 6.5% of a compound such as gadolinium oxide or cerium carbonate may instead be any compound from the lanthanide series (loading material II of Example 2, 5:40-55), a series of elements that includes Yb, Tm, and Lu.

Regarding Claim 16: The layer taught by Lange comprises 52% Sn (Example 2).

Regarding Claim 17: The layer taught by Lange comprises 52% by weight of Sn and 6.5% by weight of compound such as cerium carbonate (Example 2). This is equivalent to a 58.5% by weight portion of the composition, where in that portion, Sn is present in 89% by weight and cerium carbonate is present in 11% by weight.

Regarding Claim 18: While the references Lange and Teleki do not instruct a use of the layers relative to a body, the claim is to a composition and not to a method of using the composition. As such, in the composition rendered obvious, the layer with higher atomic weight (and therefore lower X-ray fluorescent yield), will implicitly be capable being placed closer to the body than another layer.

Regarding Claim 19: Lange does not teach the composition as comprising at least three layers wherein the middle layer is comprised of elements having a lower atomic number than the two outside layers. However, Teleki teaches using a thin layer of aluminum in between layers such as tin (1:60-2:1). Lange and Teleki are analogous art because they are concerned with the same field of endeavor, namely radiation protective materials. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the triple layer of Teleki in the composition of Lange and would have been motivated to do so because Teleki teaches that the Al layer improves the absorption properties of the structure by dispersing the X-ray or

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gamma radiation (1:65-2:1). Furthermore, by definition, the middle layer will be in between layers that are both further away and closer to any body than the middle layer.

Regarding Claim 20: Lange does not teach the composition as comprising a weakly radioactive layer embedded between two non-radioactive protective layers. However, Teleki teaches using a thin layer of aluminum (a non-radioactive layer) alternating with layers such as uranium (a weakly radioactive compound) (1:38-40 and 60-2:1). Lange and Teleki are analogous art because they are concerned with the same field of endeavor, namely radiation protective materials. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the triple layer of Teleki in the composition of Lange and would have been motivated to do so because Teleki teaches that the Al layer improves the absorption properties of the structure by dispersing the X-ray or gamma radiation (1:65-2:1).

Regarding Claim 21: Lange further teaches that the compounds are grains (granular) (3:15-26).

Lange does not teach the specific particle size requirement of claim 21. However, it is well known in the art to change result effective variables such as grain size distribution (See MPEP 2144.05). At the time of the invention, a person of ordinary skill in the art would have found it obvious to optimize the grain size distribution of Lange and would be motivated to do so because Lange teaches that "grain size distribution and particle form are important parameters for achieving the desired flexibility with the maximum amount of filler material" (1:33-35).

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thiess et al. (US Pub. No. 2004/0262546) in view of Teleki (US Pat. No. 4,795,654).

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Thiess et al. teaches a lead-substitute radiation absorbing composition comprising 20-40 weight percent of rubber (matrix material) with the remaining weight percent being radiation absorbing particles ([0015]). With regards to the radiation absorbing particles, Thiess et al. teaches that they may comprise 40-60 weight percent Sn, 20-30 weight percent W, and 20-30 weight percent Bi ([0025]). At 22 weight percent rubber, these ranges give weight percents relative to the entire composition of: 31.2-46.8 for Sn, and 15.6 to 31.2 for W and Bi, anticipating the ranges of claims 1-4.

Thiess et al. does not teach the composition as comprising multiple layers of different compositions where the layer more remote from a body being protected comprise predominantly elements having a lower atomic number, and the layer closer to the body comprises predominantly elements having a higher atomic number. However, Teleki teaches a radiation protective composition of multiple layers of differing compositions where one layer may comprise U and another Sn (1:16-28 and 3:28-35). Thiess et al. and Teleki are analogous art because they are concerned with the same field of endeavor, namely radiation protective materials that may be used in clothing. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the multilayers of Teleki with the composition of Thiess et al. and would have been motivated to do so because Teleki teaches that another layer may protect from secondary radiation emitted by a first layer (1:16-28). While the references Thiess et al. and Teleki do not instruct a use of the layers relative to a body, the claim is to a composition and not to a method of using the composition. As such, in the composition rendered obvious, the layer comprising U will implicitly be capable being placed closer to the body than another layer.

Response to Arguments

Applicant's arguments filed May 18, 2009 have been fully considered but they are not persuasive.

Applicant's newly added limitations concerning the design of the lead-substitute radiation protection apron have been sufficiently responded to in the rejections above.

With regards to Teleki, Applicant argues that Teleki teaches the opposite arrangement of layers of the instant claims. However, by its very nature an apron may be worn with either side closer to one's body as an apron has two sides, both of which may be placed next to one's body. Therefore a layer comprising U will implicitly be *capable* of being placed closer to the body than another layer. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. *If the prior art structure is capable of performing the intended use, then it meets the claim.* Regardless of whether an apron is generally considered to be worn in either of two directions, it is still *capable* of being worn in either of two directions. As the claims are not to a method of wearing the apron but to the apron itself, the prior art structure meets the claim as it is capable of being worn in either of two directions.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "design features which constrain a wearer to wear the protective apron in one way" and also the features of the aprons described in US Pat. No. 4,766,608 to Cusick et al.) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the

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specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER F. GODENSCHWAGER whose telephone number is (571)270-3302. The examiner can normally be reached on Monday-Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. F. G./
Examiner, Art Unit 1796
June 23, 2009

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1796

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